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ABSTRACT

This booklet consists of 10 sample lessons integrating population education into the social studies. It is one of four in a series. Materials differ from those in an earlier series (1980) in that lessons are presented at the secondary level only; there is no duplication of lessons from the earlier series in terms of content and teaching strategies. Lessons focus on population problems; population in India; world population growth; problems of independent India; effects of population size on per capita income, standard of living, and economic development; the effect of population change on ecological balance; quality of life and socialist modernization; population and cities; children as liabilities and assets; and sociocultural values affecting population change. Each lesson contains a box which provides the user with initial information with regard to content, objectives, grade level, and subject into which population education should be integrated. Although the main body of each lesson varies, most lessons contain an overview of content, teaching-learning strategy, and evaluation suggestions. Lessons were adapted from material derived from China, India, and the Philippines. (LH)

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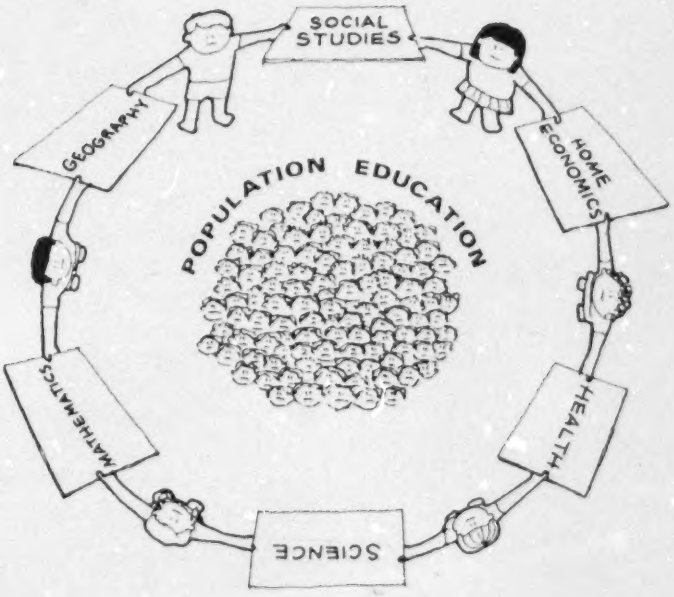
population education in SOCIAL STUDIES

some sample lessons for the secondary level



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POPULATION EDUCATION IN SOCIAL STUDIES

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INTRODUCTION

This booklet consisting of sample lessons integrating population education into social studies, is one of the four in a series prepared to provide more innovative lessons in addition to the six booklets developed and disseminated in 1980. First conceived to provide teachers, educators and curriculum developers with useful tools for disseminating population education concepts in the school setting, the first six booklets consisted of sample lessons integrating population education concepts into social studies, health, mathematics, science, home economics and geography which are taught at the primary and secondary levels. While the 1980 booklets contained lessons for use at both primary and secondary levels, the present set of four booklets consists of sample lessons introducing population concepts into selected subjects (social studies, science, mathematics, and home economics) for use at the *secondary level* only. The main reason for this focus is that more and more countries in Asia are introducing population education at the secondary rather than the primary level. Many of them, whether they have new or on-going population education programmes have developed a wider range of lessons and learning materials for secondary courses - many of which are in their respective national languages.

Compared with the past, more and more population education programmes are at present paying closer attention and devoting more time to the development of curriculum materials in population education. Integrating population education concepts into various subject areas is not as easy as it might seem. Although a number of content analyses of school textbooks have shown that population education concepts already exist in these materials, they are more there by accident than by design. Some programmes on the other hand go to the other extreme. In their case, too many population education concepts are introduced into the subjects, overburdening the curriculum material and thus overwhelming the teacher with an extra teaching load. This naturally results in the rejection of the population education concepts and gives little chance for their acceptance as a built-in enrichment area for the total general curriculum programme.

Thus the primary objective of this series of curriculum materials is to provide a continuous stream of exemplary lessons and learning materials showing the various techniques and strategies that different countries have taken to integrate population education concepts into various subjects taught in the school. Hopefully, a regular updating of these booklets will show a trend in the efforts of the countries to finally adapt a strategy that will ensure a proper integration of these concepts, not in a skeletal and unsystematic manner nor in an overwhelming and

saturating sense either, but in an adequate quantum that will meet the acceptable minimum learning requirements called for in this field.

Organization of this booklet

'Population Education in Social Studies' consists of ten sample lessons integrating population education into social studies. The sample lessons included in this booklet are a combination of original materials and an adaptation of lessons derived from China, India, the Philippines and some original materials developed by the Unesco staff. The selection of sample lessons is first of all based on the criterion that they should not duplicate those found in the 1980 booklets in terms of content and treatment or teaching strategy. Secondly, they should offer new techniques in the development of population education concepts. In cases where the lessons contained good and appropriate concepts but the development and treatment was not carefully executed, considerable adaptations have been made.

Each lesson contains a box which provides the user with initial information with regard to content, objectives, grade level and subject into which it should be integrated. The main body of each lesson varies. For example, at its simplest form, some lessons contain a straight narrative exposition of the content and some evaluation questions at the end. The second type consists of lessons which carry an overview, content, teaching-learning strategies and evaluation but are given in an outline form, enumerating a list of alternative contents, teaching-learning strategies and assessment questions. The more detailed type of sample lessons contain: (a) an overview or introduction; (b) a suggested teaching materials and references, concretely showing how these teaching aids can be used; (c) the development of the concepts which give specific step-by-step procedures to the teacher on how to expand on the subject, what reactions to expect from the students and alternative ways of dealing with these reactions; (d) a summary of what has been learned in the lesson; and finally (e) a complete set of evaluation questions to determine the students' gain in knowledge and change in attitude and skills.

Contents

Social studies has the richest source of entry points into which population education concepts can be relevantly introduced. The sample lessons included under this subject are grouped into three major classifications: (a) those which deal with demographic concepts such as population problems and world population growth; (b) those that deal with the effects of rapid population growth on the quality of life, ecology and standard of living; and (c) those that deal with social and cultural norms and values

such as preference for sons and the value of children. The majority of these lessons use the role playing, debate, simulation, discovery or inquiry approach and values clarification in the development of the concepts.

Contribution from the member states

There are many more examples of population education lessons which had not been included in this booklet for the simple reason that they come in the countries' national languages. Hopefully, these few lessons should generate more contributions from the member states by providing us with translated lessons which they think can be of great use to other countries.

CONTENT	:	POPULATION PROBLEM
OBJECTIVES	:	1. *To realize that the population problem exists in the country and that all concerned should do something about it;* 2. *To assume a defendable position when confronted with conflicting views, such as whether the rich and educated need not limit their family size; and* 3. *To acquaint skills in debating an issue.*
GRADE LEVEL	:	UPPER SECONDARY
SUBJECT	:	SOCIAL STUDIES

A. Opener

In 1978, Thomas Malthus, an English clergyman warned the world that population is increasing at geometric progression (i.e. 2, 4, 8, 16 32 etc.) while food supply increases merely at arithmetic progression (2, 4, 6, 8, 10 etc.). He contended that soon there would be famine and economic chaos. The Malthusian and Neo-Malthusian of today are persistent with that doomsday message.

However, pronatalists are saying that man's crisis has only motivated him to improve his technology and that he has, in fact, produced more than he can consume. Is there really a population problem or is it a case of a production problem? Is it a case of a distribution problem? What do you think?

B. Development

1. Brainstorming session

Divide the class into three groups - one group which maintains that there is a population problem, another group which maintains that the country has a production problem,

a third which asserts that the problem is inequitable distribution of goods and services. Have the groups conduct a brainstorming session - the first group to think of solutions to the maldistribution problem.

At the beginning of the brainstorming session, a recorder is appointed to take down all the suggested solutions or ideas. The students understand in advance that they can offer any idea that comes into their minds on the problem under consideration - the wilder the ideas, the better. Often, impractical suggestions may 'trigger' off other students' practical suggestions that might not otherwise occur to them. Criticism of the ideas offered is not permitted during the brainstorming session. This ensures a greater possibility that some really excellent ones will come up.

In the class meeting, have the recorder of each group report on the solutions to their particular problem. It would be better if the recorder writes the solutions on the chalkboard so that the class can screen and appraise these better. They can combine some ideas and improve on or eliminate others. They may evaluate their positions and come up with some tentative conclusions.

2. Buzz session

Have the class conduct buzz sessions to discuss the question "How can you help carry out or implement the solutions you have suggested?".

To conduct the buzz session, divide the class into small groups of from four to six members and give the buzz groups from ten to fifteen minutes to discuss the question under study. At the end of the session, the recorder of a buzz group reports his findings or ideas to the class. He may write or have someone write the summary report on the chalkboard. To avoid repetition, ask the other buzz groups which ideas of the first group are similar to their ideas. Tell them to report only these ideas which have not been mentioned by the previous reporters.

3. Debate

First assume that the class agreed that there is a population problem, and that action programmes are needed by the Government and all concerned. To alleviate the problem, some proposed solutions may, however, be controversial such as "only the educated and the rich couples have the right to have many children - all others must have no more than two". This suggestion may trigger heated

arguments pro and con. This is, therefore, a good topic for a class debate. The Random House Dictionary of the English Language defines debate as "a contest in which the affirmative and negative sides of a proposition are advocated by opposing speakers.

There are six essential steps of classroom debate.[1] These are as follows:

a) Selection of problem and debate participants

The debaters of either the affirmative or the negative side may be previously convinced about the side of an issue that they are taking. It is important that the debaters of both sides are evenly matched. This should not be difficult to have for a controversial issue. There should be speakers (affirmative and negative) for each issue. A team captain is also chosen. The latter will cover all the issues in the debate. The issue could be stated in a formal debate format such as "Resolved that the rich and educated need not limit their family size" (Affirmative), and "Resolved that every family, including the rich and educated should limit their family size" (Negative).

b) Organization of the issue

Each speaker of the affirmative, in this case, "Resolved that the rich and educated need not limit their family size" must assume the burden of proof of why the rich and educated need not limit their family size. The speaker of the negative side, in this case, "Resolved that every family including the rich and educated must limit their family size", attempts to destroy all the arguments presented by the affirmative side.

c) Preparation of the issues for debate

Among the sub-issues upon which to build pros and cons could the the following:

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1. Kenneth H. Hoover, "The Debate: Valid Teaching Method" in *Clearing House:* 40:232-235, December 1965.

i) Redistribution of wealth

Pro: Wealth could be distributed to many family members if the rich have more children.

Con: Taxation is the best way to redistribute wealth not through inheritance.

ii) Progress of the nation

Pro: The rich and educated are more intelligent, healthier and can contribute more to the economy, development and progress of the nation.

Con: The poor can also achieve progress if given the same opportunity as those of the rich. Many great men are from poor families.

iii) Asset and liability to society

Pro: The well-to-do and educated are assets to society; economically and socio-culturally.

Con: Children of the poor are assets in an agricultural economy. They are used to hard work and tend to be more responsible. They preserve the golden heritage of the nation.

iv) Perpetuation of the race

Pro: Need to maintain good replacement to existing population. Cite case of aging population in Japan and Europe.

Con: The poor have human rights to perpetuate themselves too. They are needed for agricultural and industrial development.

The affirmative and negative teams then meet separately to plan the research and the strategy to use in presenting their arguments or questions to the opponents.

d) Debate presentation

Each of the debaters speaks for an equal length of time, with the affirmative and negative sides

alternating. The first affirmative speaker talks on the first issue, followed by the negative speaker on the first issue, and so on.

After all the speaker have presented their arguments, the rebuttal follows when, again, for an equal length of time, each speaker on a sub-issue asks his counterpart questions.

e) Debate evaluation

The team that wins is selected by a jury. The jury may be distinguished parents or citizens of the community. Usually, the best debater is also chosen and awarded a prize or medal.

f) Follow-through review analysis

The debate is not really ended with the awarding of prizes. One or two class meetings should be devoted to a review or an analysis of the debate. Among the things that may be discussed are the following:

i) What were the major points made? Were the arguments supported by solid data?

ii) How did each of the major arguments withstand the arguments of the opposition?

iii) What related issues emerged which could be investigated further?

iv) What generalizations might the class make?

CONTENT	:	POPULATION - INDIA
OBJECTIVES	:	1. *To develop an awareness of the magnitude of population growth in India;* 2. *To recognize the factors contributing to rapid growth of population;* 3. *To realize the consequences of rapid population growth;* 4. *To develop the desirable attitudinal change.*
GRADE LEVEL	:	HIGH SCHOOL
SUBJECT	:	SOCIAL STUDIES

POPULATION - INDIA

Our country is the second most populous country in the world. You know that China stands first in this respect. The population of our country is 685 million as per the 1981 census. This is 15.5 per cent of the world population. In other words, every sixth person in the world is an Indian. The population of India is increasing by about 13 million every year. The total population of the whole Australian continent is about 13 million people. So, may we say that India produces an Australia every year. This is because the gap between the birth rate and death rate is more in our country. The difference between the birth rate and the death rate is known as the growth rate. The growth rate of population in our country has shot up from 21 per cent in 1971 to 25 per cent in 1981.

The total land area of India is 3.29 million square kilometres. This is only 2.4 per cent of the total land area of the world. The average density of population in our country is 221 per square kilometre. This average density is seven times more than the world's average. Developed countries like U.S.A., U.S.S.R., which are larger in land area than India, have lesser populations.

The growth rate of population in our country is in geometrical ratio (viz.) 2, 4, 8, 16, 32, 64 etc. whereas, food

production increases in arithmetical ratio viz. 2, 4, 6, 8, 10 etc. Our population is increasing more rapidly when compared with the growth of population in the developed countries. Owing to this factor, the people of our country are unable to get adequate food, shelter and clothing.

Increase in birth rate is not the only factor contributing to the growth rate of population; decrease in death rate is yet another factor. Advancement in science and technology has reduced the death rate in our country. As a result, there is a wide gap between birth rate and death rate. The birth rate in India is 40 per 1,000 and the death rate 15 per 1,000. Thus, there is an increase of 25 per 1,000 in our population every year.

Uttar Pradesh is the most thickly populated State in our country. Bihar, Maharashtra, West Bengal, Madhya Pradesh, Tamil Nadu and Kerala are also thickly populated States. Of these, Kerala has the highest average density of population per square kilometre.

Our Government has executed five five-year plans. Agriculture has improved a great deal. The country's food production has increased by leaps and bounds. But, population is increasing more rapidly than food production. This is a threatening problem which we have to face. Our country can progress only if we control the growth of population.

The population in cities like Calcutta, Bombay, Delhi, Madras, Ahmedabad, Nagpur and Hyderabad has increased a great deal in the last two years. These cities are large industrial centres. People migrate into these cities seeking employment. To control the influx of population into cities, the Government has taken steps to start industries in the rural parts of the country to provide job opportunities to the educated as well as uneducated youth.

In our country, the cities classified under class A are overcrowded. Take for instance Bombay. You find slums in the various parts of this big city. These slums spoil the beauty of the city besides creating problems like sanitation. The State Government has been taking steps to get rid of the slums.

However, as many as 30,000 persons live on the pavements in Bombay. The Government has been building houses with modern facilities for these less fortunate people to live in. The Municipal Corporation also has been providing these people with houses to live in. Our Tamil Nadu Government has been taking vigorous steps to get rid of slums. It has been providing the poor people with fire-proof houses built of brick and mortar in the place of thatched huts which have been removed.

Both our Central and State Governments have been doing a lot for the development of the country. It is our duty to realize this and give a helping hand to our Government.

DISCUSSION:

After the lecture, the following questions/issues may be discussed.

1. *How did China and India become the two most populous countries in the world?*
2. *Why are these cities in India thickly populated?*
3. *What steps has the Government been taking to solve socio-economic problems arising from rapid population growth and urbanization?*

Excerpted from: India. S.C.E.R.T. Population Education Cell. *"Sample lessons integrating population education concepts: primary, middle and secondary".* Tamil Nadu, 1983, p. 2-4.

CONTENT	:	WORLD POPULATION GROWTH: CONCEPTUALIZING SOME POPULATION CONCEPTS
OBJECTIVES	:	1. *To conceptualize exponential growth, doubling time, and over-population;* 2. *To compute doubling time;* 3. *To explain the demographic transition theory;* 4. *To state when population stabilization could be realized and how.*
GRADE LEVEL:		UPPER SECONDARY
SUBJECT	:	SOCIAL STUDIES

A. Teaching-Learning Strategy

1. Introducing the lesson

To introduce the lesson on population growth, as well as to illustrate the concepts of exponential growth and over-population - a simulation game[1] could be used. Draw a circle big enough to accommodate 32 students, who are standing very close to each other. Start with one student inside the circle. After every one minute, double the number of students inside the circle. Early in the game the students could sit with stretched legs. This is possible up to 16 students. However, at the last stage, when 32 students are inside the circle, show that they all have to stand and squeeze up to one another to be accommodated.

How does the above game illustrate exponential population growth, and over-population?

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1. One such simulation is the one suggested by Annette Hart, Social Studies Strategies: Educational Insights, Inc. 1975.

Exponential growth is perhaps better understood if one compares it with linear growth. If a farmer increases his land area under cultivation ten hectares per year, his farm size is said to be growing linearly. In the simulation game above, point out that the number of students inside the circle doubles every minute. Note that the number of students added is not constant, but that the additional number increases as the total accumulated number increases. A quantity manifests exponential growth when it increases by a constant percentage of the whole in a constant time period, e.g. 100 per cent (as in the above example), 50 per cent and 20 per cent, etc.

In the above example, when thirty-two students were inside the circle, they could be accommodated only if they were standing, hence they say if people do not rationalize population growth, standing room only on the face of the earth, may happen in the years ahead. Overpopulation may soon occur.

2. Developing the lesson

a) Number of years to reach the next billion

Some people say that world population is increasing exponentially. Is this true? Elicit reactions from the students. If some students say yes, then ask them, what is the percentage of increase every year or every ten years. After the students have done speculative thinking, present the following statistics[1]:

It took from	For earth's population to reach.....
the beginning of man to the Neolithic age	7,990,000 years to reach 10 million
Neolithic to the Birth of Christ	10,000 years to reach 300 million
Birth of Christ to the days of Columbus (1650 A.D.)	1,500 years to reach 500 million

1. Judith M. Schultz and Hubert Coon, *Population education activities for the classroom.* Eric Ohio State University, 1977. p. 19

Columbus to 1850 A.D. → 350 years to reach 1 billion

1850 to 1925 A.D. → 75 years to reach 2 billion

1925 to 1962 A.D. → 37 years to reach 3 billion

1962 to 1975 A.D. → 13 years to reach 4 billion

and will take to 1982 → 7 years to reach 5 billion

It is hoped that the students will realize that strictly speaking the yearly percentage of increases are not constant; but that the period of time to reach for the next billion population is getting shorter and shorter, hence the figure of speech exponential population growth.

b) Doubling time

Demographers pointed out that at a growth rate of one per cent or 10 per 1,000 people, it takes approximately 70 years for a population to double. A simple rule to calculate doubling time of a population is to divide the number 70 by the percentage rate of increase. Ask the students to find out the annual rate of world population increase in 1983 (i.e. 1.8 per cent, and compute the number of years the estimated world population (i.e. 4,677,000,000) will double.

$$\frac{70}{1.8} = 39 \text{ years}$$

Ask the students to find out how old they will be in 39 years (e.g. 17 + 39 = 56). If the present rate of population growth continues then the world's population will then be how big? (9,354,000,000). What will happen then? How will development efforts be affected? How will their quality of life be affected?

The students should interpret the table below:

EXPONENTIAL GROWTH DATA ON WORLD POPULATION[1]

Year	Population (in Thousands)	Doubling Time (Years)	Annual Growth Rate (%)
3,000,000 B.C.	415	-	-
400,000 B.C.	1,000	about 2,500,000	0.00003
20,000 B.C.	2,200	about 400,000	0.0002
6,000 B.C.	5,000	about 14,000	0.005
.	.	.	.
.	.	.	.
1650 A.D.	500,000	-	0.3
1850 A.D.	1,000,000	200	0.5
1930 A.D.	2,000,000	80	0.8
1974 A.D.	3,860,000	45	2.0
1978 A.D.	4,219,000	41	1.7

In the course of time, what has happened to the rate of population increase? What has happened to doubling time? What do you think will happen next?

c) Demographic transition

Present the following statistics to the students:

It has been shown that the European population went through four distinct stages, namely the following:

1. Between 1750 and 1800, birth rates and death rates are both relatively high with a rate of natural increase of only about 0.5 per cent for year.

2. Between 1800 and 1975, the birth rate continues to be high but death rate decreases, resulting in a sharply greater rate of natural increase.

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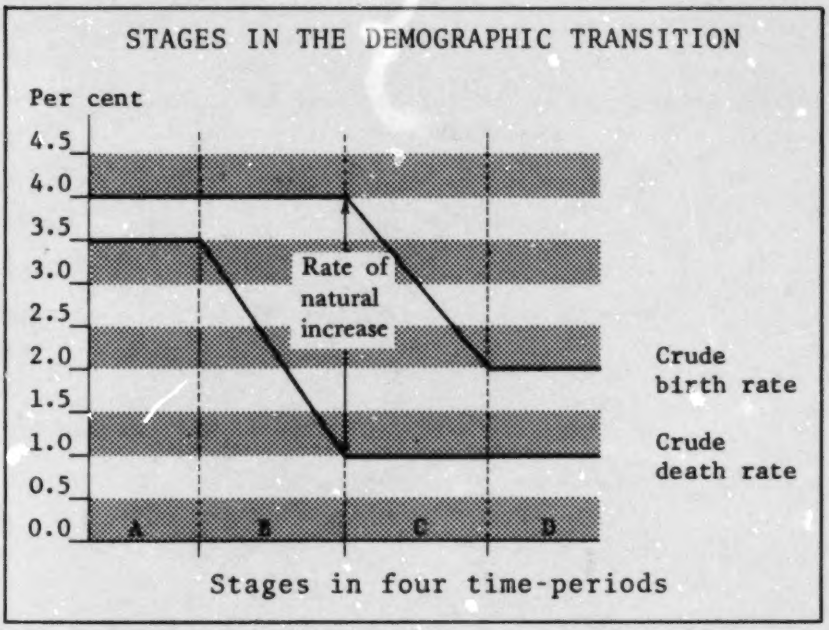
3. Educational Resources Centre, *Population issues*. New York: Teachers College Press, Columbia University, 1981.

3. Between 1875 and 1950, the birth rate decreases while the death rate continues at a low level. During this stage, there is a decrease in the rate of growth.

4. Between 1950 and 1975, birth and death rates are both relatively low, and therefore the rate of natural increase is low-hence making the trend towards population stabilization.

The above set of data could be illustrated in the graph below:



Highlight the fact that these four stages constitute what is known as demographic transition.

Ask the students:

i) Why is the rate of population increase so small between 1750-1800?

- Though birth rate was high, death rate was equally high.

ii) How will you account for the decrease in death rates between 1800 and 1875?

- Vaccinations and other forms of immunization reduced the death rates.

- Health and sanitation improved.

iii) How will you account for the decrease in birth rates between 1875 and 1950?

- Family planning.
- Development motivated people to limit family size.
- Employment of women.
- Education of women.

d) Population stabilization

The students may be asked the following questions:

i) Is the earth finite or infinite? Prove your answer.

/Finite - limited, it does not grow or increase in size.
Infinite - Not limited, endless, indefinitely large, immense, inexhaustable./

Elicit agreement that the carrying capacity of the planet earth is not infinite. Hence, the necessity for population growth to level off or stabilize. The planet earth is like an aquarium, man cannot continue to multiply endlessly without suffocating itself to death.

The students may then be confronted with the following questions:

When will population stabilization be fully realized?

Responses:

- high variant, where the population will be stabilized at 14.2 billion in 150 years or by 2130;
- medium variant, where the population will be stabilized at 10.5 billion in 130 years or by 2110; and
- low variant, where the population will be stabilized at 8 billion in 60 years or by the year 2040.[1]

---

1. 1981 World Population Report of UNFPA

ii) How will population stabilization be fully realized?

iii) What can a country do to help ensure population stabilization in 2110? in 2040?

iv) What can a family do to help ensure population stabilization?

3. Concluding the lesson

To ascertain if the population concepts have been fully understood by the students, ask questions of the application type (to use Benjamin Bloom's term):

a) Number of years to the next billion

If the population of Asia in 1982 was 2,581,422 and growing at 1.75 per cent per annum, when will Asia's population reach 6 billion?

b) Doubling time

What is the population doubling time of your country?

c) Demographic transition

Does the demographic transition apply in Asia?

d) Population stabilization

When will the population of your country be stabilized?

CONTENT	:	PROBLEMS OF INDEPENDENT INDIA
OBJECTIVES	:	1. *To interpret basic demographic terms;* 2. *To acquaint students with the manifold problems of Independent India, arising out mainly due to population explosion;* 3. *To realize that family size affects standard of living of families;* 4. *To recognize the interrelationship between man and environment;* 5. *To identify the problems arising out of population growth, analyse them and apply scientific aptitude for solving them.* 6. *To appreciate government and non-government efforts in solving the socio-economic problems;* 7. *To acquire process skills such as collecting, tabulating and interpreting data.*
GRADE LEVEL:		HIGH SCHOOL
SUBJECT	:	CIVICS

A. Overview

Students have been acquainted with the socio-economic problems of Bihar as well as its problems of population growth in previous lessons.

The present lesson is meant to acquaint them with the problems of Independent India, being a developing country and to enable them to adopt a scientific and responsible outlook towards their solution.

B. CONTENTS

Problems of Independent India: causes

1. Population growth

   a) Gap between birth and death.

   b) Migration: marriage, employment, education, natural calamities.

   c) Superstition, dogmatism and pro-natalist socio-religious beliefs.

   d) Early marriage.

   e) Low standard of living: poverty as cause not effect of high fertility.

2. Food

   a) Limited arable land.

   b) Fragmentation of land holdings due to increase in family size.

   c) Improper use of manures and insecticides.

   d) Scarcity of land for agriculture, due to heavy demand for meeting housing needs.

   e) Deforestation - causing floods.

   f) Lack of investment in agriculture due to poverty, leading to less yield and lower standard of living.

   g) Non-availability of nutritious food affecting health and productivity - reducing income and standard of living.

3. Housing problems

   a) Due to rapid population growth resulting in high population density both of which lead to scarcity of housing.

   b) People are compelled to reside in small houses having one or two rooms only and in slum areas. Nearly 61 per cent to 72 per cent of population are compelled to live in single rooms:

New Delhi	61%
Calcutta	71.9%
Bombay	72.3%
Madras	67.5%
Ahmedabad	65.3%
Kanpur	62.3%

Impact

a) Lack of basic amenities.

b) Lack of medical supplies.

c) Prevalence of diseases.

d) Development of unhealthy habits.

e) Scarcity of play-grounds for children's recreation.

4. Illiteracy

a) Illiteracy increase is about 1.4 crores population per year.

b) Poverty.

c) Lower standard of living.

d) Ignorance about importance of education.

Impact

a) Although literacy increased from 29.45 per cent in 1971 to 36.1 per cent in 1981; the number of illiterates also increased from 387 million (1971) to 446 million (1981).

b) Compulsory education programme for children from 6-14 age as provided in Indian constitution could not be implemented even after 35 years of independence.

c) Instead of sending children to schools, they are engaged in some form of work to make both ends meet. Employment of children is regarded a socio-economic crime. Child-labourers are exploited.

d) For want of proper education, the number of unskilled labourers is on the increase everyday resulting in under-employment, less income and lower standard of living.

5. Unemployment

a) Illiteracy.

b) Lack of job opportunities.

c) Lack of technical know-how.

d) Ill-health.

e) Lack of savings and investment in job-generating economic activities.

Impact

a) Low income.

b) Consumption far exceeds income.

c) Less saving, if at all.

d) Low standard of living, if not poverty.

6. Pollution

Causes

a) Population growth.

b) Excess manuring in land.

c) Industrialization.

d) Urbanization.

e) More vehicles.

f) Smoke and dust due to unpaved roads.

g) Poor domestic sewerage.

h) Use of D.D.T. and other insecticide.

Kinds

a) Air.

b) Water.

c) Sound.

Impact

Spread of the following diseases:

a) Bronchitis.

b) Asthma.

c) Lungs and other forms of cancers.

d) Pneumonia and tuberculosis.

e) Cholera.

f) Dysentry.

g) Jaundice.

h) Deafness.

i) Cold and caugh.

C. Teaching-Learning Strategy

1. The teacher should proceed from known to unknown through skilful questioning and discourse in the class.
2. The teacher may use demographic data for explaining population problems in India and in Bihar.
3. The teacher through a story may also explain to the students regarding the problem of food-adulteration in the market.
4. The teacher can also arrange trips to densely populated areas in the villages and slum areas of the towns to give first-hand information regarding housing problems faced by many people.
5. The teacher may also explain the causes of crowding on roads, buses, trains and market places and relate these problems with population growth.
6. The teacher may also arrange lectures in the school by experts, e.g. doctors, to explain the diseases caused by pollution.
7. The teacher may also organize debate/essay competition on the following topics:

   i) Problem and impact of illiteracy.
   ii) Population growth and unemployment.
   iii) Role of migration in changing population situation.
   iv) Crimes and population growth.

8. Students, with the help of the teacher, may conduct a survey and interview the people residing in slum areas to gather information regarding their housing and other problems.
9. Students can also interview the unemployed and relate the causes of their conditions with illiteracy and population growth.
10. Students may collect pictures showing causes of pollution and its effects.
11. Students can also be engaged in the following co-curricular activities:

    i) Cultural programme.
    ii) Songs, e.g. folk songs.
    iii) One-act play.
    iv. Puppet show.

    These activities could help highlight the problems of independent India and their possible remedies.

Students can also take the initiative in educating the community by organizing these programmes in the villages and making them aware of the alarming consequences of different types of pollution.

12. Students can also visit hospitals, health centres, and clinics and see for themselves the deplorable health conditions of the local people.

13. Students can also observe infants and children and gather information regarding the food they eat. They can also relate the health of the children with the kind of food available and population growth.

14. Students can also help teachers in organizing exhibitions on different occasions showing pictures relating to:
    i) Population growth and housing problems.
    ii) Population growth and food scarcity.
    iii) Population growth and diseases.
    iv) Different types of pollutions and their effects.

D. EVALUATION

1. Multiple choice

Direction: Please tick (✓) the most appropriate one.

a) Some causes of the population growth are given below:

i) Child's birth.
ii) Death.
iii) Excess of birth over death.

b) People believe that more people means:

i) Boon to the family.
ii) Asset to a nation.
iii) Curse to the family.

c) More people in a family and in a nation brings:

i) Prosperity.
ii) Poverty.
iii) To maintain status.

2. Matching types

Direction: In column A, are cities and in Column B. the percentage of population living in single rooms.

Please match Column B with Columr A.

Column A	Column B
a) Delhi	*a) 62.3%*
b) Calcutta	*b) 65.3%*
c) Bombay	*c) 71.9%*
d) Ahmedabad	*d) 72.3%*
e) Kanpur	*e) 61%*

3. Completion type

Direction: Fill in the blanks with the alternatives given in parenthesis.

a) The literacy percentage according to the 1981 census was _____% (29.45%, 24.02%, 36.1%)

b) The number of illiterates according to the 1971 census was _____(480 m., 387 m., 238 m.)

c) The number of illiterates according to 1981 census rose up to _____(387 m., 446 m., 550 m.)

d) The number of illiterates is on the increase due to _____(poverty/indifferent attitude/low standard of living)

4. Categorization

Direction: State whether the diseases listed below are caused by air, water and sound pollution. Please categorize them accordingly:

a) Bronchitis.
b) Jaundice.
c) Asthma.
d) Dysentry.
e) Deafness
f) Lungs and other form of cancer
g) Increase in cough.
h) Pneumonia & T.B.
i) Cholera.

Excerpted from: India. S.C.E.R.T. Population Education Cell. *"A package of model lessons in population education"*, Bihar, Patna, 1983.

CONTENT	:	EFFECTS OF POPULATION SIZE ON PER CAPITA INCOME AND STANDARD OF LIVING AND ECONOMIC DEVELOPMENT THROUGH SOCIAL INVESTIGATION
OBJECTIVES	:	1. *To conceptualize the effects of family size on per capita income and standard of living;* 2. *To form a better concept of family size, per capita income, standard of living and economic development;* 3. *To recognize that per capita income affects economic development;* 4. *To form generalization on the interrelationships of family size, per capita income and standard of living and economic development;* 5. *To acquire process skills in conducting a simple survey, how to tabulate, analyse and interpret data.*
GRADE LEVEL:		HIGH SCHOOL
SUBJECT	:	SOCIAL STUDIES

A. Teaching-Learning Strategy

1. Social investigation

a) Survey of few families

Arrange for a group of three to five students to visit and interview about five well-to-do families (husband and wife).

Likewise, arrange for a group of three to five students to visit and interview about five poor families (husband and wife). /In both cases, advance notice and consent should be obtained./

b) Survey tools

Two survey instruments need to be prepared, a very simple observation check list and an interview schedule.

The observation check list may include the following:

Name of respondent: husband:_____

wife :_____

i) Home environment
- ____ (4) excellent
- ____ (3) very good
- ____ (2) good
- ____ (1) bad

ii) Kind of house
- ____ (4) very beautiful
- ____ (3) beautiful
- ____ (2) not really that beautiful
- ____ (1) ugly

iii) Furniture
- ____ (4) first class
- ____ (3) second class
- ____ (2) third class
- ____ (1) fourth class

iv) Appliances
- ____ (4) with all modern appliances
- ____ (3) with most modern appliances
- ____ (2) a few
- ____ (1) hardly any

/The numbers before each item represent the weight or score./

The interview schedule may include the following:

i) How old are you, sir? _____(Husband's age)
How old are you, madam?_____(Wife's age)

ii) What is your religion?_____

iii) How many children do you have?
- ____ (1) none or one
- ____ (2) two to three
- ____ (3) four to five
- ____ (4) six and more

iv) How many children do you plan to have?
____ (1) none or one
____ (2) two to three
____ (3) four to five
____ (4) six and more

v) Do you own this house?
____ (1) Government/Company housing
____ (2) rented
____ (3) still paying on installment
____ (4) own

vi) What is your educational attainment?
Husband: _____
Wife : _____

vii) What is your annual income?
____ (1) Pesos 5,000 or less
____ (2) Pesos 5,000 - 10,000
____ (3) Pesos 10,001 - 15,000
____ (4) Pesos 15,001 - 20,000
____ (5) Pesos 20,000 or more

viii) What is your estimated expenditure per month?

_____

vii) Do you have any problem arising from the number of children which you have? If there is, kindly tell us briefly about it.

_____
_____
_____

2. Concept and generalization attainment: effect of family size on per capita income

a) Per capita income

Per capita income may be understood better if the learners are led to go through a process on how this is arrived at. For instance, let the learners pick any of the duly accomplished interview schedule. What is the total income (or gross income) of the family chosen? How many members are there? To arrive at the per capita income divide the total family income by the number of family members. Below is an illustration:

$$\text{Per capita income} = \frac{\text{Total income of a family}}{\text{No. in family}}$$

b) Tabulation of data

It is suggested that the student now tabulate the total income of each of the families interviewed vis-a-vis family size.

Family Size \ Family Income	Total Income	Per Capita Income
0 - 1 2 - 3 4 - 5 6 or more		

On the basis of the tabulated data, is it true that the bigger the family size, the smaller is the per capita income?

3. Concept and generalization attainment: effect of family size on standard of living

a) Conceptualizing standard of living

The Oxford dictionary defines standard of living as the "minimum of material comfort with which a person or class or community may reasonably be content".

Point out that among the indicators of standard of living are precisely the items in the observation checklist (i.e. home environment, kind of house/ shelter, furniture, appliances, etc.) and those in the interview schedule (i.e. income, home, education).

b) Suggested table

Family Size \ Living Standard	House Environment	Kind of House	Furniture	Appliance	Own House	Total
0 - 1 2 - 3 4 - 5 6 and more	4	4	4	4	4	

c) Procedure for tabulation

Enter the scores of each of the family responses on the horizontal axis according to the family size. For example, for a family which has between 0 to 1 child, who has an excellent environment, with very beautiful home, first class furniture, with all modern appliances, and own a house enter the score 4 on the appropriate columns. Do the same for each of the observation checklists. Get the overall total weight and divide that by the number of family respondents. Higher average score means higher standard of living.

d) Interpretation of data

The main thrust of the interpretation of data is to prove or disprove the hypothesis that the more children a family has, the less likely that the standard of living will be high, i.e. for families with less children, the weighted average will be higher resulting in a higher score. This indicates a higher standard of living.

4. Generalization: effect of family size on per capita income and standard of living

The learners may now be encouraged to combine the two tables, which may appear as follows:

Per Capita Income and Standard of Living / Family Size	Per Capita Income	Standard of Living
0 - 1	High	High
2 - 3	Medium	Medium
4 - 5	Low	Low
6 or more	Lowest	Lowest

With the above summary table, the students may now be able to generalize that "family size affects per capita income and standard of living". The generalization could be that "family size is inversely related to per capita income and standard of living". A generalization asserts that a pattern of relationship exists among concepts (e.g. family size, per capita income and standard of living). However, it is not a gospel truth. In general, it is the

case that the bigger the family size, the lower the per capita income and standard of living. However, there are exceptions to the generalization.

5. Concept attainment and generalization: macro level

The students could be motivated to extend the inquiry at the macro level, i.e. the national economy. The basic problem is "does population size and growth rate affect per capita income and economic development?"

a) Economic development

Economic development is a process that draws a greater proportion of the people into more productive and often different activities. Raising the overall productivity or output of the population is one key to economic development; and this output in terms of goods and services must rise faster than population increase if individual well-being is to improve.

For purposes of measuring output, the Gross National Product (GNP) or Gross Domestic Product (GDP) are used. GNP is the sum of all the wealth (the value of all the final goods and services) produced by a nation in a particular year. GDP, unlike GNP, excludes income emanating from outside the national boundaries; the difference between this two is often negligible. GNP divided by the total population gives the per capita ratio - the wealth per person of the population of a nation.

In 1970, the Philippines had a GNP of 29 billion pesos and a population of 37 million. How can we find the per capita income of the Filipinos?

Compute: $\frac{29,000,000,000}{37,000,000}$ = per capita income

The per capita income, therefore, was around ₱ 760 in 1970. How much would this be per month? What could be the consequences of a very low per capita income? Why do you think the country has a low per capita income? (The rapid population growth rate of about 3 per cent of the Philippines in 1970 could be presented and its relation to the per capita income and economic growth of the country.)

At this juncture, it can also be pointed out that the per capita income is only a crude measure or indicator of a country's economic growth. Especially in the Philippines, there are many services at home

which are given free and are, therefore, not valued at market price. In the computation of GNP, all those free services are not included and so our GNP is, in most cases, underestimated. On the basis of this, the resulting per capita income is likewise underestimated. Therefore, the per capita income does not show the true picture of the country's economic progress. However, in the absence of a more accurate measure, we have to be satisfied with the per capita income as a measure of economic growth until economists can come up with a more reliable and accurate measure.

If some 18 million births (half of the 1970 population) were averted before 1970, how would this have affected the per capita income of the country? What would be the implications of this situation in terms of our standard of living?

The discussion should lead the students to realize that everyone of the 18 million existing Filipinos (the other half of the 1970 population) would normally enjoy twice as much per capita income and, therefore, a standard of living twice as high as the present one which leaves much to be desired.

On the other hand, if the population today were half its present size, would our GNP reach its current level? Do you think production would be as high as its level today? (The possibility that a decreased population may also decrease total production can be pointed out because of the likelihood that families with fewer children might be less motivated to improve their production.)

Let's go back to our community. Based on your experiences and on your observations of the people's standard of living, can you say that we have a high or a low per capita income in our community? If the rate of population growth in our community will be lessened, what do you think the effect of this will be on the total production? On the per capita income? On the economic growth of the community?

b) Summing up

Guide the students to sum up the ideas developed in the lesson. Then ask!

What can you say about population growth and per capita income?

Lead the students to express the following statements or similar ones:

1. Rapid population growth may either increase or decrease per capita income.

   a) Less increase of production in a rapidly growing population will mean less per capita income and, therefore, slow economic development

   b) If large families will be motivated to increase their productivity, there will be a higher per capita income and, therefore, fast economic growth.

   Guide the students to sum up the ideas in the whole unit. Then ask:

   What can we conclude from the study of the unit?

The students may formulate generalizations or conclusions.

The class may give the following or similar generalizations:

1. Population size and rapid population growth affects the economic development of a community.
2. Population size affects per capita income and economic development of a nation.

Adaptation from: Philippines. Ministry of Education and Culture. Population Education Programme. *"Teacher's guide in population education for social studies, first-fourth year"*. (Revised for Muslim Filipinos) Manila, 1981, p. 25-29.

CONTENT	:	POPULATION CHANGE AND ECOLOGICAL BALANCE
OBJECTIVES	:	*1. To define the meaning of environment, ecological system, ecological balance and natural resources;* *2. To explain why and how man disturbs ecological balance;* *3. To discuss the effects when man disturbs the balance in nature;* *4. To show evidence that population growth tends to impose severe stress on natural resources;* *5. To help maintain ecological balance;* *6. To help people in the neighbourhood and community realize the importance of controlling population growth as one means to maintain a rational balance between population and natural resources.*
GRADE LEVEL:		MIDDLE LEVEL
SUBJECT	:	SOCIAL STUDIES

A. CONTENT: MAIN IDEAS

1. The ecological system is the fountain and cradle of the development of mankind.
2. Man's effort to increase production and to improve his quality of life could result in ecological imbalance, which could in turn adversely affect his very existence now and/or some future time.
3. Man may modify the environment bearing in mind the natural law and along the direction beneficial to mankind.
4. Unplanned population growth tends to impose severe stress on natural resources.

B. METHOD/STRATEGY

1. First class period

a) Initiation of the lesson

Display the posters on *"Population and the Eco-System"*. Let the students read and analyse the posters. With the help of the *"Background Information for Teachers"*, the teacher should be able to help students to conceptualize the meaning of the terms: 1) environment; 2) eco-system; 3) ecological balance; and 4) natural resources.

b) Development of the lesson

i) The problem

Real learning starts with a confusion, puzzle, dilemma or problem bothering the learners. It is therefore very important for the teacher to help make students aware of problems, such as the following:

1. *Why and how does man disturb ecological balance? How is he affected in the process?*
2. *To what extent may man modify his environment without adverse effects on his quality of life?*
3. *How does rapid population growth affect ecological balance?*
4. *How has rapid population growth affected the availability of resources -*
   a) in the world
   b) in China
   c) in your community.

ii) Hypothesis (Tentative answer)

The teacher can motivate the students to make tentative solutions to the problems in the light of their experiences or data already available to them. A well-stated hypothesis can serve as a useful guide in the search for relevant data. Some such hypotheses could be the following:

1. In man's efforts to increase production (for example, food) to enhance his quality of life, he tends to upset ecological balance, which could adversely affect his life.

2) If man is guided by the natural law, he could modify his environment to serve him well - now or in the future.

3) If population growth is unplanned, then it may contribute to ecological imbalance.

4) If population growth is rapid, then it could impose severe stress on resources in China and in the world.

iii) Homework

Before the class period is over, the class may be divided into four (4) working groups, as follows:

Group 1 - Problem Area 1
Group 2 - Problem Area 2
Group 3 - Problem Area 3
Group 4 - Problem Area 4

Each group will gather informational data regarding the problem area assigned to them. Each group will try to prove or disprove the hypothesis of the problem assigned to them.

It is the responsibility of the teacher to guide the different working groups, including the supply of the much needed materials (books, periodicals, charts, posters, slides/films, etc.).

2. Second class period

a) Presentation of the findings of each group

Each group will be expected to present their findings to the class. Each group will be required to use charts, posters, pictures, etc. in proving or disproving the hypothesis.

Guided by the teacher, the conclusions of each of the groups could be synthesized. If all the hypotheses are proven, those will be the conclusions of the class.

b) Action-programmes

The teacher should highlight what these conclusions have to do with the learners. Can they contribute to the solution of some of those problems? For example, the students might resolve to help -

i) maintain ecological balance and modify the environment only to the extent that such change will be beneficial to mankind, now or in the future.

ii) make his family, neighbours and community members realize that one of the ways to solve lack of resources is to control population growth.

C. MATERIALS

All the possible learning materials for use by the students should be identified and made available. Among these materials are:

1. The book, *Population Education for Middle Schools*, published by the People's Education Press, 1983.
2. Posters on "Population and the Eco-System".
3. Others.

D. EVALUATION

It is the responsibility of the teachers to evaluate the learning and resulting behaviour of the students regarding population change and ecological balance.

It is suggested that the teacher evaluate the following:

1. Knowledge acquired

A paper and pencil test could be used. (See Section V for sample test items).

2. Development of thinking skills

This could be tested through paper and pencil examination. For example a test which will require the students to interpret, analyse and synthesize informational data. (See Section V for sample test items). However thinking skills could also be tested or observed while the students are analysing data to prove or disprove the hypothesis or how they synthesize and present their research findings.

3. Attitudes/behaviour

Perhaps, the best way to determine if there has been a change in attitude and behaviour is to observe how they conduct their follow-up action programmes in their community. Since this is not easy to do, the students might be required to prepare a report of their follow-up action programmes.

E. Sample Test Items

1. Knowledge

Instruction: If the statement is correct, write the word true; however if the statement is not correct, rewrite the sentence to make it correct.

a) The existence and development of mankind is determined only by socio-economic laws.

b) Maintenance of ecological balance does not mean no change can be made in the environment; but that changes made by man on the environment must consider its adapting ability.

c) Man is master of nature, hence he is not part of the ecological system.

d) It is estimated that from 1963 to 1973, the world's forest area decreased by 20 per cent.

e) Population growth has always led to the maintenance of ecological balance.

f) About 96.5 per cent of the water on the surface of the earth is fresh water.

g) Only 10 per cent of land area in the world is not fit for agricultural production.

h) The decrease in rate of population growth in China in recent years led to increase of mu per capita of cultivated land.

i) Rapid population growth contributed to pollution of the environment.

j) When the earth becomes too crowded man can migrate and live in other planets.

2. Thinking skills

a) Interpret the meaning of this illustration: (Page 23 of the English version of the book Population Education for Middle Schools).

b) Analyse the meaning of the Table below: (Page 25 of the English version of Population Education for Middle Schools).

3. Follow-up action programme

Instruction: Find out what people in your community have done to increase production. What are some of the consequences of such activities on the ecological system?

Example:

Activities to increase production	Effects on the ecological system	Proposed solution
a) Cutting down forest for agricultural production	Floods	Build dams
b) Use insecticide and pesticide	Pollution/ poisoning	
c) Use of chemical fertilizers		
d) Others		

How can you help solve each of the above-listed problems?

ACTION PROGRAMMES: Proposed Format for Report

a) Name of the community: _____

b) Location: _____

c) Date of visit: _____
Time of arrival: _____
Time of departure: _____

d) Purpose of visit: _____

e) Description of target learner group: _____

f) Size of the group: _____

g) Topic discussed/ service rendered: _____

h) Methods and materials used: _____

i) Outcome of the visit/ teaching: _____

Excerpted from: China. Shanxi Pedagogical Institute. *Training guide in population education for middle school; China training course for population education.* Xian, 1983, p. 1-10.

CONTENT	:	QUALITY OF LIFE AND SOCIALIST MODERNIZATION
OBJECTIVES	:	*1. To define quality of life in the context of China;* *2. To realize that quality of life of people is more important than quantity in realizing socialist modernization;* *3. To give evidences that the quality of life of the Chinese people improved greatly since pre-liberation, but that much could still be done to fully realize China's socialist modernization;* *4. To discuss how China's large population and rapid population growth have adversely affected quality of life and socialist modernization;* *5. To strive to achieve quality of life to contribute much more to socialist modernization;* *6. To promote population education and family planning in their family, neighbourhood and community as a means to help the country realize socialist modernization.*
GRADE LEVEL:		MIDDLE SCHOOLS
SUBJECT	:	SOCIAL STUDIES

A. CONTENT: MAIN IDEAS

1. Quality of life is more crucial than quantity of population in the realization of socialist modernization.

2. The quality of life of the Chinese people has greatly improved since pre-liberation, but much has yet to be done to fully realize socialist modernization.

3. China's large population and rapid population growth have adversely affected quality of life and socialist modernization.

B. METHOD/STRATEGY

1. First class period

a) Initiation of the lesson

The teacher displays the posters on Population and Socialist Modernization. Let the students read, examine and analyse the messages of the posters. In so doing, it is hoped that the students will understand the relationships of population growth, accumulation of capital, the people's educational and cultural levels, and quality of life vis-a-vis socialist modernization.

b) Development of the lesson

i) The Problem

It is said that real learning starts with a confusion, puzzle, dilemma or problem bothering the learner. It is, therefore, important for the teacher to lead his/her students to a learning situation where they would long for an answer to certain questions, such as those related to quality of life and socialist modernization. Among such problems could be the following:

1. *Why is quality of life of people more crucial than population quantity in realizing socialist modernization?*
2. *To what extent has there been an improvement on the quality of life since pre-liberation day in China? How may the quality of life of the Chinese people be further improved to fully realize socialist modernization?*
3. *To what extent have large population and rapid population growth served as obstacles to the realization of quality of life and socialist modernization?*

ii) Tentative Answers (Hypothesis)

It is possible that students have some prior knowledge on these problems, which they might have learned from other subjects such as geography or political studies. They may, therefore, be able to give tentative answers. The teachers should guide the students to frame such into statements that could be useful guides in the search for more convincing informational data. Statements such as the following are useful guide for research:

1) If increase in the quantity or number of people adversely affects quality of life, then socialist modernization may not be fully realized.

2) Quality of life in China has improved greatly since pre-liberation; however, much could still be done to improve it to fully realize socialist modernization.

3) Large population and rapid population growth have hindered realization of quality of life and socialist modernization.

iii) Homework

Before the first class period is over, the teacher should divide the class into possibly three (3) working groups as follows:

Group 1 - Problem area 1
Group 2 - Problem area 2
Group 3 - Problem area 3

Each of the working groups will gather information data about the problem area assigned to the group. Each group will search for data which will prove or disprove the hypothesis of their problem area.

It is the responsibility of the teacher to guide the working groups and to supply them with all the materials needed (books, periodicals, charts, posters, slides/films, etc.)

2. Second class period

a) Presentation of research findings

Each group will be expected to present their research findings to the class, using charts, posters, pictures, slides, films, as the case may be, in proving or disproving their hypothesis.

Guided by the teacher, the conclusions of each group will be synthesized. If all the hypothesis are proven, those will be the basis of an overall conclusion or generalization.

b) Action programmes

The teacher should, thereafter, try to let the students realize that these findings/conclusions have implications for them. The teacher must motivate the students to contribute to the solution of some of these problems. For example, the students might resolve to help:

i) enhance their quality of life so that may contribute much more to the realization of China's socialist modernization.

ii) promote population education in their family, neighbours and members of their community as one means to help the country realize socialist modernization.

C. MATERIALS

The teacher should identify and make available to the students all the materials needed for a thorough study of the topic, "Quality of Life and Socialist Modernization". Among these could be the following:

1. The book, *Population Education in Middle Schools.*
2. The posters on "Population and Socialist Modernization.
3. Others.

D. EVALUATION

It is the responsibility of the teacher to evaluate the outcome of the learning process, the change in attitude and the resulting behaviour of the students. The following may be evaluated:

1. Knowledge acquired

A paper and pencil test could be used for this.

2. Development of thinking skills

This could also be ascertained with the use of a paper and pencil test. The development of thinking skill could also be observed while the students are analysing data to prove or disprove their hypothesis; and while they are presenting their research findings.

3. Attitudes/behaviour

Perhaps the best way to determine changes in attitudes is to observe how the students carry out their follow-up action programmes in their family, neighbourhood and community. However, this is easier said than done. One may therefore have to rely on their report about their follow-up community activities and social investigations. (See the attached possible format for such report.)

E. Sample Test Items

1. Knowledge

a. List the main indicators of quality of life.

i)
ii)
iii)
iv)

b) Cite at least three evidences that quality of life in China is not up to standard to fully realize socialist modernization.

v)
vi)
vii)

c) Cite three practical and effective measures to realize socialist modernization.

viii)
ix)
x)

2. Thinking skills

a) Analyse the meaning of the graphs given below.

/Page 81-82 of the English version of the book, *Population education for middle school.*/

b) Present the following data in a Table and a Graph and state the implications for quality of life and socialist modernization.

c) Follow "In China, 93 per cent of school age children (7-11 years old) are attending primary schools. Only 46 per cent of middle school-age children (11-17 years old) are enrolled. Only about 1.6 per cent of college-age students are enrolled".

3. Follow-up action programmes

The different food items given below are required for the realization of quality of life. Find out from the authorities concerned (e.g. the Ministry of Health officials) how much the Chinese people in general are getting. Compare this with what people in your community or family are getting.

Grams Per Person Per Day

Food Items	Minimum Requirements	China	In Your Community	In Your Family
Cereals and yams	288			
Vegetables and fruits	249			
Meat, Fish, eggs	122			
Milk	168			

If the consumption of each of the above food items in the country, your community or family is below the minimum requirements, how does that affect quality of life? What can you help do about it?

Excerpted from: China. Shaanxi Pedagogical Institute. *Training guide in population education for middle school; China training course for population education.* Xian, 1983. p. 1-7.

CONTENT	:	POPULATION AND CITIES
OBJECTIVES	:	*1. To develop a better understanding of the history and trends of population growth and distribution in the world and China;* *2. To be able to identify factors affecting population density;* *3. To trace the development of migration all over the world;* *4. To be able to trace the development of urbanization in developed and developing countries;* *5. To identify the problems that the process of urbanization brings about;* *6. To gain more understanding of the urban development in China and the prospects of China's urban construction.*
GRADE LEVEL:		HIGH SCHOOL
SUBJECT	:	GEOGRAPHY

LESSON ONE

A. Population Growth and Distribution

1. Population growth

Nowadays, various countries in the world regard population problem as their big concern. After the Second World War, population in the world increased rapidly. According to statistics, the world population in 1980 was 4,415 billion. China is the most populous country in the world. In the past 30 years or more, there has been a rapid population growth in the country. However, since the 1970s, population growth has been declining, because the work in family planning has achieved remarkable success. The

natural population increase rate dropped from 24.4 per cent in 1971 to 12 per cent in 1980.

2. Population distribution

a) There is an extremely unbalanced population distribution in the world. More than 90 per cent of population lives on the 10 per cent of land. The average population density in the world is 32 persons per square kilometre. The most thickly inhabited areas are East Asia, South Asia, West Europe and Northeast area of the United States. In East Asia and South Asia, population density is more than 200 persons per square kilometre and in some districts, even 500-1000 persons per square kilometre.

b) Population distribution in China is also very unbalanced. Inner Mongolia, Xinjiang, Qinghai and Tibet cover half of the total area of the country, but they only have a population of 4 per cent of the country's total population. The average population density of the area is less than eight persons per square kilometre and in Tibet, only two persons. At the same time, the rest of the 26 provinces, and principal cities occupying the other half of the total area have a population of 96 per cent of the country. In Jiangsu and Shandong provinces, the population density is very high, reaching 500 persons per square kilometre.

3. Factors affecting population density

Population density is mainly influenced by the factors of economic, national conditions and how long the areas have been exploited.

B. Questions and Exercises

a) Make a chart of the world population growth (diagram of curves or column) based on the world population between 1750-1980 (billion).

b) What is the population development in China? Are there any problems in this area and how can one solve them?

c) Analysing the population distribution map, identify which areas have a very large population and which areas have a sparse population and why?

d) Analysing the population distribution map of China, explain the characteristics of population distribution in China.

e) What are the various factors affecting population distribution? How do you determine whether there is a proper population distribution in an area or not?

LESSON TWO

A. Population Migration

1. Population migration at the earlier stage of capitalist development

a) Migration from Europe to America

The first migrants to America were mainly the Spaniards, Portuguese, then followed by the British, the French and the Dutch. Only in the latter half of the 18th century that nearly one million Europeans emigrated from Europe, two-thirds of which were the British. During the 19th century, emigration continued increasing in Europe, the average number being one million a year.

b) Plundering blacks from Africa to America

In the 16th century, European colonies began to transport African blacks for sale in America. This lasted 400 years or more and about 12 million to 30 million blacks were sent to America, thus making Africa lose a large part of its population.

c) Western countries developed Asia and recruited a great number of Chinese, Japanese and Indians in their labour force.

From the 19th to early 20th century many Chinese emigrated to Southeast Asia to make a living. The emigrants from Japan mainly went to the United States and Brazil and those from India mainly went to Africa and America.

2. Population migration after the Second World War

After the Second World War, population migration in the world developed some new characteristics: (a) emigration from developing countries to developed countries; (b) decrease of settle-down migration and fast increase of mobile labour (foreign workers); (c) continuing increase of inner-migration.

B. Problems on Urban Development Urbanization

1. The establishment and development of cities

The establishment and the development of cities resulted from the development of social economy and culture.

2. Urbanization and its process

a) In these years, urbanization between developing countries and developed countries followed two different processes. In developed countries, because of the more advanced development of modernization, a great proportion of the labour force moved into the cities. In these countries, generally 60 per cent to 80 per cent of the whole population is urban population.

b) The speed of urbanization in developing countries has exceeded that in developed countries after the Second World War. Between 1950-1975, the numbers of cities with populations of 1 million and over increased from 23 to 90 and urban populations increased from 47 million to 240 million in developing countries.

3. The problems on the process of urbanization

The city's limitless expansion and its fast population growth has brought a series of problems to social life, such as environmental pollution, traffic jams, shortage of housing, increasing rates of unemployment and public order. These have deeply influenced the national economic and social development.

4. Working out a city plan, protecting and improving the city's environment

The specific measures are:

a) Decentralizing the functions of large cities, establishing new cities and satellite towns.

b) Making a rational programme and strengthening urban management.

C. Questions and Exercises

1. *What is urban development like since the Second World War? What are the different processes of urbanization between developing countries and developed countries?*

2. *Illustrating with examples, what are the problems that urban excessive expansion has brought to the environment of the city and how can one solve such problems?*

3. *Are there any environmental problems in the city where you live? What caused such problems?*

LESSON THREE

A. Urban Development in China

1. The characteristics of urban development in China

a) The urbanization of China followed a planned and gradual developmental process. Now there are 223 cities in China, in addition to 3,200 county seats and towns.

b) There is a fast development of the large and medium sized cities and slow development of the small-sized cities. From 1952-1979, the large cities increased from 42 to 111, but the small-sized cities under 200 thousand people decreased from 115 to 105.

c) Urban population regional distribution has already had some rational changes but is still considered unbalanced. After liberation, especially in the Southwest and Northwest areas of China which are less advanced in economy and culture, many new cities have been set up. In 1976, 48 per cent of urban population was in the east part of China, 52 per cent was in the west part.

2. Prospects of urban construction

a) Control of large cities' scales.

b) Rational development of medium-sized cities.

c) Vigorous actions to build small-sized cities and towns.

B. Questions and Exercises

1. *What are the characteristics of urban development in China since the founding of the People's Republic?*

2. *What are the prospects of the urban construction in China?*

3. *Conduct an investigation about the historical, present functions and developmental prospects of the city you live in or a near-by city.*

Excerpted from: China, ed. by Chen Ershou and others. *Geography.* Beijing, People's Education Press, 1982. p. 148-179.

CONTENT	:	CHILDREN: ASSETS OR LIABILITIES? (POPULATION CHANGE: PARTICIPATORY MODALITY)
OBJECTIVES	:	1. *To state the reasons why people want or do not want to have children;* 2. *To assess how much it cost to raise a child, vis-a-vis what a child contributes to family income before he starts a family of his/her own;* 3. *To judge for themselves if, indeed, children are assets or liabilities for the family.*
GRADE LEVEL:		LOWER HIGH SCHOOL
SUBJECT	:	SOCIAL STUDIES

A. Teaching-Learning Strategy

1. Initiation of the lesson: brainstorming

The Chambers Twentieth Century Dictionary defines brainstorm as "sudden disturbance of the mind: sudden inspiration". During the students transition from childhood to adolescence, it is deemed most appropriate to one day suddenly 'disturb' the students minds by asking why people want to have children. A brainstorming on people's motivation for wanting to have many children is hereby suggested. No attempt should be made to formally teach or elaborate at this point, lest one stifles the students' spontaneous reactions.

Among the reasons that could be given are the following:

a) biological reasons, e.g. mutual attraction of a man and a woman;

b) desire to perpetuate the family name and to pass own wealth or property (e.g. land, house, business, etc.);

c) desire to prove masculinity or femininity;

d) peer or family social pressure;

e) economic reasons: children are economic assets even while young and are security for old age;

f) love of children;

g) concern for well-being of society and country (e.g. desire to add to the society's agricultural, industrial and military manpower, etc.); and

h) children are God's gifts.

In the course of the brainstorming elicit views on which of the reasons cited above have more direct implications to the community's and nation's development and progress. The students may rank these, i.e. Rank 1 to 8. Obtain the overall ranking. If, for example, economic reasons is ranked 1, then the inquiry process that follows is suggested.

2. Development of the lesson

At this stage, the teacher should move the class from the brainstorming approach to a scientific inquiry process, i.e. (i) state the problem; (ii) formulate hypothesis; (iii) collect and interpret data; (iv) prove or disprove the hypothesis; and (v) arrive at defensible conclusion.

a) Problem

The problem could be, are children economic assets or liabilities?

b) Hypothesis

The hypothesis could be that if a family lives in a rural/village, then children are economic assets.

If a family lives in a city or big town, then children are liabilities.

c) Data gathering

A tool adapted from Prof. Donald Bogue of the University of Chicago could be used to gather data on whether children are, in fact, assets or liabilities. In the context of Asia, most young people marry at the average age of 20, during which they have families of their own. It is, therefore, suggested that in this exercise the age range 1 to 20 be used.

Two sets of research instruments will be completed by the students, preferably with the help of their parents or prominent people in the community. One set will be for families in a rural village setting and the other for families in a city or big town. Each set of tools will have two parts. In Part I, the students will be asked to estimate the amount of money an average rural villager or city dweller would spend on a child for basic necessities. In order to do this, the students with the help of their parents and community leaders will fill out the following table.

	Food	Clothing	Education	Medical care	Gifts	Other	TOTAL
0 - 1							
1 - 2							
2 - 3							
3 - 4							
4 - 5							
5 - 6							
6 - 7							
7 - 8							
8 - 9							
9 - 10							
10 - 11							
11 - 12							
12 - 13							
13 - 14							
14 - 15							
15 - 16							
16 - 17							
17 - 18							
18 - 19							
19 - 20							

Notes

1) In calculating food, estimate the amount of rice, wheat or other cereal equivalent it would take to sustain a child per week. Multiply this by 52 to get value for the year. Then convert this to money by multiplying the total quantity of cereal consumed by the current market value of the cereal at wholesale prices (prices paid to farmers at harvest).

2) Clothing. Estimate only actual cash expenditures for cloth, etc. to make clothes. Include estimates for shoes, undergarments, winter clothing where relevant.

3) Education. Estimate value of all additional cash expenditures if child attends school: books, supplies, uniforms, additional clothing and food, etc.

4) Medical care. Assume child gets ill with average frequency and parents take the usual care -- purchase of drugs from pharmacy, use of medical centres, etc.

5) Gifts. Assume parents expend on child the typical amount for gifts given on holidays, etc.

6. Others. Try to think of all other occasions where a parent might make a cash expenditure that would be considered essential or culturally necessary.

This is Part II of Exercise I. In this exercise you are asked to estimate the amount of work a child actually does in the rural areas of your society, and the economic value of this work. To do this proceed as follows:

1) In the table below, report the average number of hours a child actually engages in work which, if not performed, it would be necessary to employ outside help. This includes chores, cattle tending, working in fields, at plowing planting, harvest time. Keep in mind the seasons when there is little work to do as well as the peak seasons. The results are to be reported in terms of a month of 28 days (four weeks).

2) Estimate the efficiency of the work the child performs. This is to be done in terms of adult labourer -- how long would it take an adult worker to do the same work.

3) If the work were actually performed by an adult worker, what rate of pay would you be forced to pay the adult worker. Take into account (a) the degree of skill required, and the current rate of cash pay a worker with such skills would be paid. Express in local currency.

Age	Hours worked per month at productive work		Efficiency: how many hours could this be done by an adult		What would be monthly rate pay of adult worker	
	Boys	Girls	Male worker	Female worker	Male	Female
4-5						
5-6						
6-7						
7-8						
8-9						
9-10						
10-11						
11-12						
12-13						
13-14						
14-15						
15-16						
16-17						
17-18						
18-19						
19-20						

The same tools could be used for making estimates of cost for rearing children and the worth in monetary terms that each child contributes to the family income.

d) Prove/disprove the hypothesis

All the data obtained by all the students should be combined in a summary table, i.e. the average cost

for rearing a child up to age 20 vis-a-vis the overall average contribution to the family income. These exercise should be done for the two sets of tables, i.e. rural village and urban social context.

e) Conclusion

If, in fact, costs exceed the value (in monetary terms) contributed to family income, then children are economic liabilities. However, if the value contributed to family income exceed the cost for rearing a child, then one may conclude that indeed children are economic assets. Will the findings and conclusions be the same for rural villagers and for city dwellers?

The teacher may take note of the experience in the People's Republic of China - a country that has recognized that rapid population growth is not beneficial to the accelerated speed of capital accumulation. It is estimated that to bring up a child until the age of 16 when he or she can join the workforce costs approximately 1,600 Yuan[1] in communes and production brigades, 4,800 Yuan in county towns and 6,900 Yuan in cities. (These figures include education costs at primary and middle school level.) It is calculated that the total costs of bringing up those born since 1949 have absorbed approximately half of the cumulative total of the country's consumption fund.

In the USA, the findings are as follows:[2]

> "The average total cost of raising a first child in 1969 was US$59,627: Birth, US$1,534; cost of raising a child to age 18, US$17,576; cost of college, US$1,244; cost of income for average housewife who does not work in order to take care of children, US$39,273.

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1. Approximately 1.98 Yuan = One United States dollar.
2. Population Education Project, Indonesia University. Population Inquiries. 1974.

CONTENT	:	PREFERENCE FOR A SON: SOCIO-CULTURAL VALUES AFFECTING POPULATION CHANGE
OBJECTIVES	:	1. *To cite why the preference for sons persist among families;* 2. *To state what arguments could be used to dissuade parents from the strong preference for sons;* 3. *To reflect different value positions regarding preference for a son through role-playing.*
GRADE LEVEL:		HIGH SCHOOL
SUBJECT	:	SOCIAL STUDIES

A. Teaching Strategy: Role-Playing

Fannie Shaftel defines role-playing as "the spontaneous practice of roles-assuming them in order to practice the behaviour required in various cultural situations.[1] Role-playing is an elaborate socio-cultural method, rather than being merely a technique of teaching, in that it is a group problem-solving method which involves, inter-alia, decision-making, discussion, problem analysis and generalization. Shaftel cited seven steps in role-playing. Each step will be utilized in the study of a value, which is very much affecting family size and population change in many countries in Asia, i.e. the strong preference for a son.

1. Setting a climate for role-playing

The preference for a son appears to be prevalent in many Asian countries. The East-West Centre study on Value of Children found that a third of rural families in the

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1. Fannie R. Shaftel and George Shaftel. *Role-playing for social values.* New Jersey, Prentice Hall, 1967.

Philippines, two-fifths in the Republic of Korea and nearly a half in Thailand simply try, no matter how many daughters they have, until they have at least one son. Those who eventually give up, do so only after they have had three or four daughters in a row.[1]

What is the situation in the country regarding this value? The students may confirm that the preference for a son is still prevalent in the country. Some may say it is changing. Some may say, it must definitely be changed. Then tell the following unfinished story:

Ben and Cho were very good friends since they were in the primary grades. They went to the same secondary school in the province. They studied in the same very high standard university in the capital city, although they pursued different degrees. Cho took Commercial Art while Ben took up Mining Engineering. Both landed good paying jobs after graduation. Both married their sweethearts whom they met at the University in the same year. After their marriage, Ben was assigned in a mining company in a far away province. Cho and family stayed in the city. Both became engrossed with their work and their families, and from 1968 to 1984 they did not hear from each other.

Ben and his wife, Nelia, have five children, all girls. They are determined to have a son, but so far only daughters have come. Because they have so many children they are not well-off. Both look much older than their age.

Cho and his wife, Mila, have a boy and a girl, and they do not intend to have any more. They are well-off now and are enjoying life. Both look much younger than their age.

In June 1984, these two family friends met at an Alumni Home-Coming of their Alma Mater. Cho and Mila, on knowing Ben and Nelia's predicament about the wish for a son, think their friends have a problem. What do you think Cho and Mila will say? If Cho and Mila try to dissuade Ben and Nelia about their determination to have a son, how will they react? What do you think will happen when the problem is discussed?

It is to be noted that the "climate" is the key to realistic role-playing. The teacher must concentrate through his own behaviour that he knows many problems are not easy to solve; that often we behave impulsively and get

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1. Arnold, Fred et. al. "The value of children: a cross-cultural study", Vol. 1: *Introduction and Comparative Analysis*. Honolulu, East-West Population Institute, 1975.

into difficulties; that there is not necessarily one "right" solution. He guides the group to think of "what will happen" rather than "what should happen". We want the "should" aspect to emerge from the group's growing insight as they role-play the situation. The teacher works for open-ended exploration.

2. Selecting role-players

After a "warm-up" to a situation or problem, the role-players must be chosen. During the "warm-up", the teacher may ask questions such as: "Where will this confrontation between Ben and Nelia, and Cho and Mila take place?" /May be in the home of Cho and Mila/ How do you think Cho and Mila feel?" "How do you think Ben and Nelia will react if the issue is raised?" What will happen now?"

Such questions evoke responses from different individuals. This enables the teacher to select the people who seem to be identifying with roles in the situation, or with the situation. Such people are ready to role-play.

When possible, select for the first role-playing people who evidence impulsive or socially poor solutions so that these may be opened up and explored for such consequences. Save the positive and socially acceptable solutions for final enactments so that the entire gamut of behaviours may be exposed to the group for evaluation.

3. Preparing the audience (as observer participants)

It is important to prepare the audience to observe purposefully. The leader may suggest to the observers that:

a) Some identify with particular roles and think through whether that would be the way they would play them.

b) They check the performance in terms of how realistic it is.

c) They observe how different people in the enactment feel in the situation.

d) They think through the solution (or technique) that is being demonstrated for other possible solutions.

4. The enactment

The teacher helps the role-players by asking such questions as: "Where will this take place?" (and helps set the stage - chairs, etc.)

"What time of day is this?" (or, "Where in the story are we starting?")

"What are the various people doing?"

An enactment does not have to be completed. The teacher may stop it when the role-players have clearly demonstrated their ideas on what will happen. However, sometimes the teacher may want to allow a situation to be played out to the bitter end - so that the consequences become dramatically clear to the group.

5. Discussing and evaluating

After an enactment, the teacher must be careful not to be judgmental. He may end the enactment, thank the performers and ask the audience "What is happening?" (an open-ended question).

He may prolong the discussion through such questions as:

How does Ben feel? How does Nelia feel? What about Cho and Mila?

Could that kind of dialogue really happen?

What will happen now?

Why does Ben behave the way he does?

Why does Nelia behave the way she does?

Why are Cho and Mila that concern?

"Are there other ways this situation could end?"

Finally, after numerous enactments, the leader may ask, "Could this happen to you or people you know?". This may build a bridge to application in their own lives.

6. The re-enactment

Further enactments may present other students' ideas of how the roles could be handled. (Different kinds of individuals in the same situation.)

Or they may involve alternative solutions.

Often the children may take the situation that was presented by the first role-players and carry it forward in terms of further consequences.

Sometimes the teacher may wish to keep certain players in their roles and change others (to get more effective role-playing). Occasionally, he may ask a student to switch roles - to put himself in the other fellow's shoes.

7. Sharing experiences and generalizing

The question, "Where are we now?" may precipitate some generalizing or review of the many solutions that have been explored.

It is hoped that at the end all the enactments and re-enactments, those who originally sympathized with Ben and Nelia's feelings to keep on trying for a son - regardless of how many daughters they may have in so doing - will change their attitudes after hearing the more rationalized views from those who portrayed Cho and Mila's roles.